1000 Solved Problems in Classical Physics

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An Exercise Book

Springer

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ISBN 978-3-642-11942-2 e-ISBN 978-3-642-11943-9
DOI 10.1007/978-3-642-11943-9
Springer Heidelberg Dordrecht London New York

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Cover design: eStudio Calamar S.L.

Printed on acid-free paper

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Dedicated to my Parents

Preface

This book complements the book *1000 Solved Problems in Modern Physics* by the same author and published by Springer-Verlag so that bulk of the courses for undergraduate curriculum are covered. It is targeted mainly at the undergraduate students of USA, UK and other European countries and the M.Sc. students of Asian countries, but will be found useful for the graduate students, students preparing for graduate record examination (GRE), teachers and tutors. This is a by-product of lectures given at the Osmania University, University of Ottawa and University of Tebriz over several years and is intended to assist the students in their assignments and examinations. The book covers a wide spectrum of disciplines in classical physics and is mainly based on the actual examination papers of UK and the Indian universities. The selected problems display a large variety and conform to syllabi which are currently being used in various countries.

The book is divided into 15 chapters. Each chapter begins with basic concepts and a set of formulae used for solving problems for quick reference, followed by a number of problems and their solutions.

The problems are judiciously selected and are arranged section-wise. The solutions are neither pedantic nor terse. The approach is straightforward and step-by-step solutions are elaborately provided. There are approximately 450 line diagrams, one-fourth of them in colour for illustration. A subject index and a problem index are provided at the end of the book.

Elementary calculus, vector calculus and algebra are the prerequisites. The areas of mechanics and electromagnetism are emphasized. No book on problems can claim to exhaust the variety in the limited space. An attempt is made to include the important types of problems at the undergraduate level.

It is a pleasure to thank Javid, Suraiya and Techastra Solutions (P) Ltd. for typesetting and Maryam for her patience. I am grateful to the universities of UK and India for permitting me to use their question papers; to R.W. Norris and W. Seymour, *Mechanics via Calculus*, Longmans, Green and Co., 1923; to Robert A. Becker, *Introduction to Theoretical Mechanics*, McGraw-Hill Book Co. Inc, 1954, for one problem; and Google Images for the cover page. My thanks are to Springer-Verlag,

in particular Claus Ascheron, Adelheid Duhm and Elke Sauer, for constant encouragement.

Murphy, Texas *Ahmad A. Kamal*
November 2010

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